

TABLE 4.—Mean altitudes and temperatures of significant points identifiable as tropopauses during November 1940, classified according to the potential temperatures (10° intervals between 290° and 409° A.) with which they are identified (based on radiosonde observations)—Con.

Stations.....	Sault Ste. Marie, Mich.			Seattle, Wash.			Stations.....	Sault Ste. Marie, Mich.			Seattle, Wash.		
	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature °C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature °C.		Number of cases	Mean altitude (km.) m. s. l.	Mean temperature °C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature °C.
Potential temperatures, °A.							Potential temperatures, °A.						
290-299.....	4	6.6	-44.2	1	7.8	-54.0	370-379.....	2	13.4	-58.5	1	14.4	-66.0
300-309.....	14	7.6	-45.1	6	8.2	-51.3	380-389.....	5	14.5	-60.2	1	13.8	-53.0
310-319.....	23	9.0	-51.3	4	9.4	-54.8	390-399.....	4	14.6	-58.2			
320-329.....	15	10.5	-53.3	16	10.3	-56.2	400-409.....	3	15.3	-59.0	1	16.0	-62.0
330-339.....	7	10.5	-53.6	5	12.0	-63.0	Weighted means.....		10.2	-53.1		10.6	-57.1
340-349.....	2	11.4	-57.0				Mean potential temperature °A., (weighted).....		330.2			327.8	
350-359.....	1	11.7	-50.0				Number days with observations.....		27			22	
360-369.....	2	13.0	-61.5	2	14.4	-68.0							

## WEATHER ON THE NORTH ATLANTIC OCEAN

By H. C. HUNTER

**Atmospheric pressure.**—The pressure during November 1940 averaged higher than normal over nearly all portions of the North Atlantic well covered by available reports. This is in contrast to the conditions during the preceding 2 months, when pressure below normal was the rule. The November departures were greatest over the south-eastern region, Lisbon, Portugal, averaging 5.3 millibars (0.16 inch) above the normal for the month.

The extremes of pressure in the vessel reports available were 1,039.2 and 999.0 millibars (30.69 and 29.50 inches). The higher reading was noted on United States Coast Guard cutter *Mendota*, near 39½° N., 59° W., during the forenoon of the 12th. The low mark was recorded on the Honduran steamship *Iriona*, during the forenoon of the 27th, when about 130 miles to south-southwestward of Nantucket. Table 1 shows that within 48 hours of the *Iriona's* observation, readings somewhat lower were noted at the land stations at Nantucket and Halifax, and a reading decidedly lower at Belle Isle, Newfoundland.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, November 1940

Station	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Millibars	Millibars	Millibars		Millibars	
Lisbon, Portugal.....	1,022.6	+5.3	1,032	3	1,006	16
Horta, Azores.....	1,024.3	+4.0	1,032	22	1,014	20
Belle Isle, Newfoundland.....	1,008.3	+0.2	1,038	12	961	29
Halifax, Nova Scotia.....	1,016.8	+2.6	1,038	11	994	28
Nantucket.....	1,018.6	+1.0	1,037	19	994	27
Hatteras.....	1,021.3	+1.7	1,036	19	1,006	27
Turks Island.....	1,015.0	-0.6	1,018	10	1,008	6
Key West.....	1,018.3	+1.7	1,024	17	1,013	7
New Orleans.....	1,021.3	+2.0	1,034	15	1,006	25

<sup>1</sup> Also several later dates.

NOTE.—All data based on available observations, departures compiled from best available normals related to time of observation, except Hatteras, Key West, Nantucket, and New Orleans, which are 24-hour corrected means.

**Cyclones and gales.**—For the time of year the weather was comparatively quiet over those North Atlantic regions that are well covered by reports at hand. The period from the 15th to 24th was particularly free from strong winds.

A low system extending far in a north-south direction moved eastward off the North American coast on the 2d and 3d, and on the morning of the 4th was located approximately along the 58th meridian. The sole North Atlantic whole-gale report of the month was connected with this storm; it was made by the Coast Guard cutter *Pontchartrain*.

During the final week of the month another cyclonic system greatly affected the weather on the ocean, and brought usually lower barometric readings than the system just mentioned, although no wind force exceeding 9 (strong gale) is noted among the available reports. This low system crossed the coast line on the 27th and 28th, and traveled toward the northeast till beyond the field of observation.

**Fog.**—Remarkably few reports of fog have been received. However, it is worth noting that the first advices of Gulf of Mexico fog since spring came to hand; two occurrences over the north-central portion during the latter part of November have been reported.

Over the main North Atlantic waters there was fog on three dates, all during the first half of the month, to south-eastward of New Jersey and Delaware, that is, in the 5° square, 35° to 40° N., 70° to 75° W. This is about the normal November amount of fog in the area. In the region adjacent to Cape Cod and western Nova Scotia, where normally fog is encountered on 4 days in November, no reports whatever for the current November have arrived.

Three fog reports have come, in addition to the five dates previously noted. One occurrence was to south-eastward of Nova Scotia on the 16th; the other two relate to fog on the 12th and 13th a short distance to southwestward of Portugal in the square, 35° to 40° N., 10° to 15° W.